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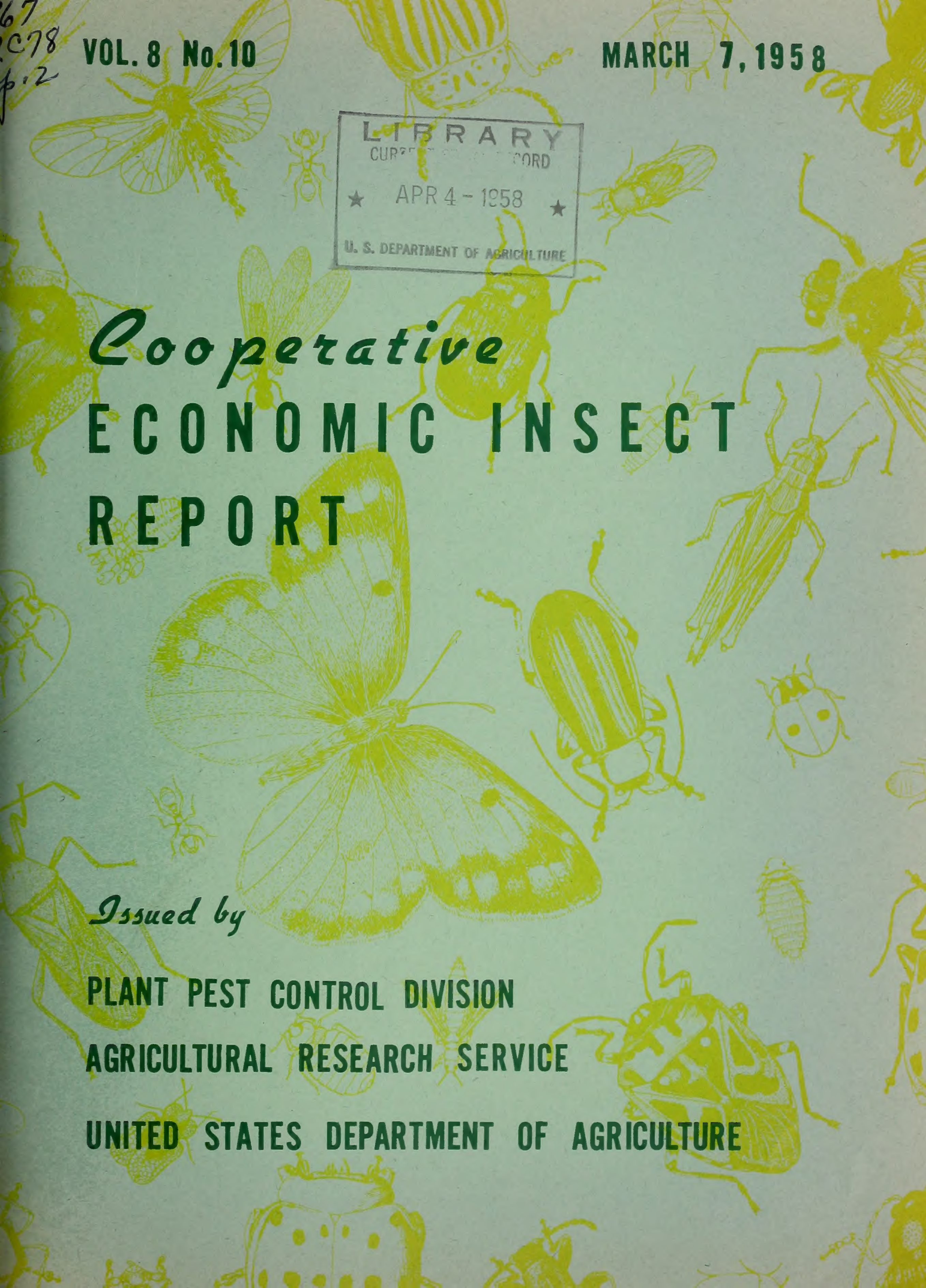

Cooperative
ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

PLANT PEST SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Control Division
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Volume 8 March 7, 1958 Number 10

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

BEET LEAFHOPPER host plants unusually numerous in desert area of California. (p. 166).

Lower number of ASPARAGUS BEETLES in hibernation in New Jersey than last year. (p. 166).

TOMATO PSYLLID damaging tomatoes in San Diego County, California. (p. 167).

VEGETABLE WEEVIL light to moderate on tobacco plant beds in Georgia. (p. 167).

Distribution of BIRCH LEAF MINER in the United States. (p. 182).

SUMMARY OF INSECT CONDITIONS - 1957 - Florida (p. 170), Oklahoma (p. 173), Mississippi (p. 178), Arizona (p. 179).

CORRECTION (p. 169).

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Reports in this issue are for the week ending February 28 unless otherwise designated.

WEATHER BUREAU 30-DAY OUTLOOK

MARCH 1958

The Weather Bureau's 30-day outlook for March calls for temperatures to average below seasonal normals over the southern half of the nation except for near normal over the South Atlantic States and above normal along the California coast. Temperatures are expected to average above seasonal normals in the Northeast and over the Great Lake Region, and also in the Pacific Northwest. In areas not specified, near normal temperature averages are indicated. Precipitation is expected to exceed normal over the eastern half of the nation and in the Northern Plains. Subnormal amounts are predicted for the southwest quarter of the country and the North Pacific coast. In the remaining area about normal amounts are in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook", published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price $4.80 a year, $2.40 a half year.

WEATHER OF THE WEEK ENDING MARCH 3

Sharp temperature changes, widespread precipitation with heavy rain and snow, glaze, high winds, tornadoes, and floods highlighted the week's weather. A storm moved out of the Northwest on February 25, crossed the central Great Plains to the Ohio Valley and Great Lakes region on the 26th and 27th and remained there with decreasing intensity during the remainder of the week. The storm produced general precipitation in the Far West, with heavy rains in parts of the Pacific States. In northern California, rains up to 5 inches produced flooding in the Russian River, and on the Sacramento side of the Coast Range where rains totaled 8 inches or more, streams were unusually high. Up to 5 feet of new snow was reported from some mountain areas of Utah. As the storm crossed the Great Plains many stations in Kansas and Oklahoma recorded their lowest pressure on record. Snowfall ranging from 3 inches in northern Oklahoma up to 17 inches at Pierre, South Dakota, was preceded by a belt of glaze in Nebraska and South Dakota. Winds up to 50 m.p.h. or more caused heavy drifting, and roads were blocked in many sections of Kansas, Nebraska, and South Dakota. Blizzard conditions continued in South Dakota through March 2. On the night of Wednesday, February 26, 4 tornadoes occurring in Mississippi caused 13 deaths, 80 injuries, and although no large towns were hit, property damage was believed to be near $1 million. Another storm area moved up the middle and north Atlantic Coast on the 26th, 27th, and 28th producing moderate to heavy rains in middle and south Atlantic Coastal States and heavy rain and snow in New England. One to 2 inches of rain plus snowmelt caused some flooding in southeastern New England, and high tides produced by 50 m.p.h. winds occurred along the southwest Connecticut coast where 500 people were evacuated. Four to 8 inches of new snow fell in northern New England.

Temperatures dropped sharply in the Far West on the 26th, the first cold snap there in February, and frost and freezing occurred in nearly all sections of Washington and Oregon on the 28th. Temperatures for the week averaged below normal in the southwestern third of the country by as much as 6°, and above normal elsewhere with departures ranging up to 18° or more in the upper Mississippi Valley. In the Southeast, this was the first mild week this year. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - CALIFORNIA - Survey conducted on predator activity in egg beds, Contra Costa County. Eggs have not coagulated. No meloid predators were present. (Cal. Coop. Rept.).

GREENBUG (Toxoptera graminum) - OKLAHOMA - A general, light infestation in small grains continues in Hennessey area. Light to medium numbers in a few fields. (Wood). None found in several fields examined, Alfalfa and Major Counties. Scattered colonies average 0-90 per linear foot of row in barley, southern Garfield County. (Coppock).

AN APHID (Rhopalosiphum subterranean) - OKLAHOMA - Light numbers in small grains in Hennessey area, Kingfisher County. (Wood).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Light infestation in alfalfa at Malaga, Eddy County. (N. Mex. Coop. Rept.). OKLAHOMA - Populations unchanged in Stillwater area. (Bieberdorf). Only an occasional aphid per alfalfa crown in several fields examined, Garfield County. None found in a few fields. (Coppock).

ARMY CUTWORM (Chorizagrotis auxiliaris) - NEBRASKA - Average 1 per linear foot of wheat, Box Butte County, 0.5 per linear foot in Garden and Deuel Counties. (Pruess). OKLAHOMA - Light infestations of early instar larvae in 2 of several fields examined averaged 0.3 and 0.5 per square yard, eastern Major County. None were found in small grains in Garfield and Alfalfa Counties. (Coppock).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Light populations in barley, average 0-20 per linear foot in southern Garfield County. (Coppock).

EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) - CALIFORNIA - Now occurring in coastal areas and a heavy infestation is damaging alfalfa in Camerillo area, Ventura County. (Cal. Coop. Rept.)

ALFALFA WEEVIL (Hypera postica) - IDAHO - Overwintering adults becoming active in Dietrich Butte area, Lincoln County. (Portman, Manning). VIRGINIA - Some eggs present in alfalfa stems at this time. Too early to determine percent of viable eggs. (Morris).

PALE WESTERN CUTWORM (Agrotis orthogonia) - NEBRASKA - Eggs hatching in Box Butte County. Population extremely light, averaging 1 per 6 linear feet in wheat. All first or second-instar larvae. (Pruess).

LYGUS BUGS - UTAH - Active in warmer areas of Washington County. (Knowlton).

FRUIT INSECTS

CLOVER MITE (Bryobia praetiosa complex) - NEW MEXICO - Eggs on apple trees in many orchards in San Juan, Sandoval, Rio Arriba, Santa Fe, Valencia and Bernalillo Counties. (N. Mex. Coop. Rept.).

GREEN PEACH APHID (Myzus persicae) - NEW MEXICO - Eggs on fruit trees, Valencia County. (N. Mex. Coop. Rept.).

OYSTERSHELL SCALE (Lepidosaphes ulmi) - CALIFORNIA - Heavy populations on walnut, San Luis Obispo County. (Cal. Coop. Rept.).

SAN JOSE SCALE (Aspidiotus perniciosus) - NEW MEXICO - Light to moderate infestations on apple trees at Velarde, Rio Arriba County, and Bernalillo, Sandoval County. (N. Mex. Coop. Rept.).

TREEHOPPERS - NEW MEXICO - Heavy oviposition injury on apple trees at High Rolls, Otero County, and Hondo, Lincoln County. (N. Mex. Coop. Rept.).

MEDITERRANEAN FRUIT FLY (*Ceratitis capitata*) - FLORIDA - No new finds in the State since November 26, 1957, making 87 "fly-free" days. (February 21, Bittner).

TRUCK CROP INSECTS

BEET LEAFHOPPER (*Circulifer tenellus*) - CALIFORNIA - Survey and check continued in Imperial Valley. Control operations mostly completed with ground spraying of 1,900 acres of desert area and aerial spraying of 19,800 acres. Unusual amounts of rain have produced more succulent host plants. A higher population now exists in the desert area than in many years. (Cal. Coop. Rept.).

ASPARAGUS BEETLES (*Crioceris* spp.) - NEW JERSEY - Survey of the number of hibernating beetles collected in 1957-58 shows a large reduction in numbers from 1956-57. In 1956-57 a total of 2,399 *C. asparagi* were taken from 46 fields averaging 52.2 beetles per field. In 1957-58 only 183 were taken from 45 fields for an average of 4.1 beetles per field. There was a like reduction in numbers of *C. duodecimpunctata*. Of these 45 fields, all but 7 were identical locations. (Ins.-Dis. Newsltr.).

ALFALFA LOOPER (*Autographa californica*) - CALIFORNIA - Medium infestation on lettuce in Watsonville area, Santa Cruz County. (Cal. Coop. Rept.).

CABBAGE APHID (*Brevicoryne brassicae*) - GEORGIA - Infestations light-moderate on cabbage in Colquitt, Thomas and Lowndes Counties, moderate on collards, Cook County. (Johnson).

CABBAGE LOOPER (*Trichoplusia ni*) - CALIFORNIA - Damaging in Capistrano area, San Diego County. Rain has prevented inseciticide application. (Cal. Coop. Rept.).

TOMATO RUSSET MITE (*Vasates lycopersici*) - CALIFORNIA - Medium infestations on night shade in Lomita area, Los Angeles County. Night shade acts as reservoir of the mite in tomato growing areas. (Cal. Coop. Rept.).

FALSE CHINCH BUGS - CALIFORNIA - *Nysius* sp. heavy on lettuce in Holtville area, Imperial County. (Cal. Coop. Rept.).

GREEN PEACH APHID (*Myzus persicae*) - CALIFORNIA - Damaging spinach in Capistrano area, San Diego County. (Cal. Coop. Rept.).

IMPORTED CABBAGEWORM (*Pieris rapae*) - GEORGIA - Light infestations on cabbage, Colquitt and Lowndes Counties. (Johnson).

SEED-CORN MAGGOT (*Hylemya cilicrura*) - OKLAHOMA - Adults moderately active at Bixby, Tulsa County. (Walton, Galeotti).

STRAWBERRY CROWN MOTH (*Ramosia bibionipennis*) - CALIFORNIA - Light infestation damaging strawberries in Watsonville area, Santa Cruz County. (Cal. Coop. Rept.).

SUGAR-BEET WIREWORM (*Limonius californicus*) - CALIFORNIA - Severely damaging small onion crops in La Puente area, Los Angeles County, with as

8 wireworms in one onion. (Cal. Coop. Rept.).

TOMATO PSYLLID (*Paratrioza cockerelli*) - CALIFORNIA - Medium infestation damaging tomato crops in Otay area, San Diego County. (Cal. Coop. Rept.).

VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) - CALIFORNIA - Causing considerable damage in large plantings of turnips in Norwalk area, Los Angeles County. (Cal. Coop. Rept.).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (*Epitrix hirtipennis*) - GEORGIA - Light infestations on tobacco plant beds in Thomas, Lowndes, Ware and Tattnall Counties. (Johnson).

VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) - GEORGIA - Light to moderate infestations on tobacco plant beds, Tift, Cook, Colquitt, Thomas, Lowndes, Ware, Pierce, Wayne and Tattnall Counties. (Johnson).

COTTON INSECTS

PINK BOLLWORM (*Pectinophora gossypiella*) - OKLAHOMA - Inspection of 2 lint cleaners and 1 gin stand recovered 4 larvae in Tillman County and none in Bryan County. (Fed.-State PBW Comm.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

GYPSY MOTH (*Porthetria dispar*) - CONNECTICUT - Scouting indicates about 10,000 acres of woodland in southeastern Litchfield and northeastern New Haven Counties moderately infested and some defoliation may be expected. This indicates a sharp decrease from 1956, when some 55,000 acres were sprayed. (Turner).

PINE WEBWORM (*Tetralopha robustella*) - GEORGIA - Severely infested 75 percent of 20-acre planting of slash pine, Pierce County. (February 17, Lund).

ROSE APHID (*Macrosiphum rosae*) - NEW MEXICO - Infesting roses in northern part of State. (N. Mex. Coop. Rept.). OREGON - Light to heavy populations actively feeding on rose foliage during February. Damage evident in Umatilla, Washington and Benton Counties. (Capizzi).

WALNUT SCALE (*Aspidiotus juglans-regiae*) - CALIFORNIA - Populations heavy on Lombardy poplar in La Mesa area, San Diego County. (Cal. Coop. Rept.).

EASTERN TENT CATERPILLAR (*Malacosoma americanum*) - FLORIDA - Eggs and larvae on rosaceous trees at Gainesville, Alachua County. Eggs were hatching locally on February 24, which is 3-4 weeks later than hatching dates in this area for past 11 years. (Hetrick).

BOXWOOD LEAF MINER (*Monarthropalpus buxi*) - NORTH CAROLINA - Larvae mining American boxwood locally, Guilford County. (Scott, Farrier).

TULIP BULB APHID (*Anuraphis tulipae*) - NORTH CAROLINA - Numerous on a group of imported tulip bulbs at a location in Surry County on January 21. (February 7, Green, Smith).

INSECTS AFFECTING MAN AND ANIMALS

A COCKROACH (Periplaneta fuliginosa) - GEORGIA - Infested a home in DeKalb County. Det. H.G.Scott. (CDC Ent. Mus.).

CATTLE GRUBS (Hypoderma spp.) - NEW MEXICO - Adults attacking cattle near watering troughs, Sierra County. (N. Mex. Coop. Rept.). OKLAHOMA - Counts at Ft. Reno averaged 2 per animal in 29 yearling heifers, 1.4 in 21 two-year old cows and 2.4 in 18 head of 3-year old cows, February 21. (Allison). Counts on yearling steers averaged approximately 1 per animal in Harper County, February 28. (Howell). UTAH - Very abundant in Washington County (Hughes, Knowlton). Heavy in Kane County. (Rose, Knowlton). NORTH CAROLINA - None found in 12 dairy cows examined, Montgomery County. (Jones). Averaged 10-50 per calf of 60 Angus and Hereford calves examined February 7, Ashe County. (Gardner). VIRGINIA - During last half of January 67 percent of all grubs collected were H. lineatum and 23 percent H. bovis, and in last half of February 88 percent were H. bovis and 12 percent were H. lineatum, in Augusta County. (Turner).

CATTLE LICE - NEW MEXICO - Moderate infestation on stock in feeding pens, Socorro County, probably Bovicola bovis. One light infestation on range cattle, Sierra County. (N. Mex. Coop. Rept.). UTAH - Numbers numerous to average, Washington, Kane, Sevier and Sanpete Counties. (Knowlton).

SHEEP BOT FLY (Oestrus ovis) - NEW MEXICO - Larvae now in third instar. (N. Mex. Coop. Rept.).

SHEEP SCAB MITE (Psoroptes equi v. ovis) - VIRGINIA - Found on 163 of 1,484 sheep inspected during January. This 163 head were dipped. (Morris).

WINTER TICK (Dermacentor albipictus) - NEW MEXICO - Moderate infestation on cattle, McKinley County. (N. Mex. Coop. Rept.).

STORED-PRODUCT INSECTS

YELLOW MEALWORM (Tenebrio molitor) - OKLAHOMA - Heavy infestation in one granary of stored wheat, eastern Major County. (Coppock).

BENEFICIAL INSECTS

LADY BEETLES - IDAHO - Large numbers leaving hibernation quarters along lower Clearwater drainage area and other parts of Latah and Nez Perce Counties. (Gittins, Barr).

MISCELLANEOUS INSECTS

BOXELDER BUG (Leptocoris trivittatus) - UTAH - Troublesome in homes at Kanab, Kane County. Also causing some annoyance in other counties. (Knowlton).

A COLYDIID (Aglenus brunneus) - CALIFORNIA - A medium infestation in chicken feed debris reported in the Anaheim area of Orange County. This species is not commonly found in California. (Cal. Coop. Rept.).

CLOVER MITE (Bryobia praetiosa complex) - NEW MEXICO - Invading homes throughout the State. (N. Mex. Coop. Rept.). UTAH - Causing annoyance in several areas of the State. (Knowlton). IDAHO - Active in and around dwelling in Moscow area, Latah County. (Manis).

EASTERN SUBTERRANEAN TERMITE (*Reticulitermes flavipes*) - NORTH CAROLINA - Alate forms emerging in a home, Mecklenburg County. (Jones, Wright).

PAVEMENT ANT (*Tetramorium caespitum*) - GEORGIA - Large numbers invading homes, DeKalb and Fulton Counties. Det. H.G.SCOTT. (CDC Ent. Mus.).

CORRECTION: In CEIR 8(8):140 under Pakistan change *Hispa armigera* to read *Dicladispa armigera*.

LIGHT TRAP COLLECTIONS

	Pseudaletia unipuncta	Agrotis ypsilon	Feltia subterranea	Prodenia ornith.
FLORIDA				
Monticello 2/19-25	5	3	5	
Quincy 2/19-25		3	5	2
LOUISIANA				
Baton Rouge 2/21-27	5	7	3	1
Franklin 2/9-25	6	1		

SUMMARY OF INSECT CONDITIONS - 1957

FLORIDA

Prepared by J. C. Denmark

Highlights: POTATO TUBERWORM (*Gnorimoschema operculella*) caused severe damage to a shipment of out-of-State potatoes at Jacksonville. AMERICAN GRASSHOPPER (*Schistocerca americana*) was reported causing damage to citrus plantings in several isolated locations over the State and some bahia grass pastures. FRUIT SCARRINGWORMS (*Platynota* spp.) were on citrus in southern and central parts of the State, January through September. Larvae fed on small green fruit, causing fruit to drop prematurely. Chemical controls were applied but very little control was achieved. Generally, FOREST INSECT activity in the northern portion of Florida seems to be at a minimum. ASIATIC RED SCALE (*Aonidiella taxus*) has spread to five additional counties from the original two counties in which the scale was discovered in 1955. This scale has been found only on *Podocarpus* and *Taxus* spp. Applications of scalicides normally found effective have drastically reduced the scale population, but has not eliminated this scale from infested nurseries. In an effort to eliminate or prevent the further spread of this scale, research has been instigated and nurseries have been quarantined. ROYAL PALM BUG (*Xylastodoris luteolus*) was reported causing damage to Royal Palms in the southern section of the State. This is the first severe outbreak of this insect since 1921. CATTLE FEVER TICK (*Boophilus microplus*) was discovered on a ranch in the southern part of Okeechobee County, April 23. Ticks have been found on three more ranches in that county and on one ranch in Dade County. Cattle and horses in the infested area were dipped in a tickacide at regular intervals. The last outbreak was in Okeechobee County in 1945. YELLOW FEVER MOSQUITO (*Aedes aegypti*) in larval stage was reported from Key West, Monroe County. This is the first discovery of this species from this area since November 1943. IMPORTED FIRE ANT (*Solenopsis saevissima richteri*)- At the end of 1957 the imported fire ant has been found infesting nineteen counties. Three of the nineteen counties had only single infestations that have been treated. Numerous nurseries in the quarantined area and out of the quarantined area have treated their premises to prevent being quarantined. KHAPRA BEETLE (*Trogoderma granarium*) inspections were made of the larger feed and seed stores in Florida and no beetles were found. An ERINOSE MITE (*Aceria litchii*) was found infesting six lychee trees at Nokomis, Sarasota County. A survey has been instigated to determine the distribution of this mite and eradication measures will be taken. SOYBEAN CYST NEMATODE (*Heterodera glycines*) has not been found on the root samples taken of suspected host plants. BURROWING NEMATODE (*Radopholus similis*) - All citrus nurseries have been sampled and infested rootstock has been treated by the hot water method prior to movement. Ornamental nurseries shipping plants into citrus producing areas have been checked for the presence of burrowing nematode and are restricted to ship only plants that are free of the burrowing nematode. Push-and-treat program, on an area clean-up basis, is still in operation in commercial groves that are infested with burrowing nematode.

Cereal and Forage Insects: A CHINCH BUG (*Blissus leucopterus insularis*) was a problem on St. Augustine grass in coastal and central sections of the State. Severe damage was believed to be aided by lack of adequate rainfall during the past three years. However, rainfall was abundant in 1957 and populations persisted with severe damage noted. Resistance to controls applied in north central section of the state in February resulted in changing formulations and increasing dosages. This insect was the most expensive to control in 1957, placing it first on the list of the ten most important insects or mites. The estimated loss of St. Augustine grass by this pest was $23,500,000, which is estimated to be a little over half the combined losses of citrus and vegetable crops. CORN EARWORM (Heliothis zea) occurred on corn in February in southern sections and again in September on the fall crop. In several instances corn acreage was reduced due to difficulty in control. Estimated crop loss was valued at $1,200,000. Mild winter and abundant rain favored GRASSLOOPERS (Mocis spp.). Infestations were spotted, especially on well kept pastures. Chemical controls were difficult due to the excessive rain and danger of insecticidal residue. A TROPICAL WEBWORM (Pachyzancla phaeopteralis), FALL ARMYWORM (Laphygma furgiperda) and BLUEGRASS WEBWORM (Crambus teterrellus) damaged ornamental lawns. RHODESGRASS SCALE (Antonina graminis) infestations on Bermuda grass and St. Augustine grass were light, but the number of reports increased. Spotted infestations were reported on golf courses. YELLOW SUGARCANE APHID (Sipha flava) was abundant on pastures due to excellent new growth stimulated by the rainy weather. Very little chemical controls were applied. Sugarcane was heavily infested in the Okeechobee area. No controls were used as harvesting operations had already started. A BILLBUG (Calendra venatus vestita) caused damage to zoysia grass lawns wherever grown. As many as 57 larvae were found per square foot of sod.

Fruit Insects: CITRUS RUST MITE (Phyllocoptruta oleivora) occurred in the citrus belt almost twelve months in the year with a heavy population reaching a peak in July and gradually decreasing by September. Estimated loss to the citrus crop was approximately $6,000,000. FLORIDA RED SCALE (Chrysomphalus aonidum) and PURPLE SCALE (Lepidosaphes beckii) infested citrus almost twelve months in the year. Purple scale increased gradually from January to November. Florida red scale reached a peak in July and gradually declined in the following months to the expected low. The estimated losses were approximately $18,000,000.00. CITRUS RED MITE (Panonychus citri) infested citrus in early spring, reaching a peak in June with a gradual decline well below the average of preceding year, but caused an estimated loss of $12,000,000. GULF WIREWORM (Conoderus amplicollis) infested strawberries at Plant City, Hillsborough County. Large numbers of larvae were present in the fruit, resulting in loss of crop value, and chemical controls were necessary in order to maintain quality. A LEAFHOPPER (Homalodisca triquetra) was present in outbreak numbers during late April on citrus at Largo, Pinellas County. FALL WEBWORM (Hyphantria cunea) severly defoliated pecan trees in the northern and western sections of the State. This insect appeared earlier than in previous years. BLACK PECAN APHID (Melanocallis caryaefoliae), a YELLOW HICKORY APHID (Monellia sp.) and PECAN NUT CASEBEARER (Acrobasis caryae) infested pecan trees in the northern section of the State. Moderate to light damage, due to the light crop, was caused by the pecan nut casebearer. The yellow hickory aphid was reported infesting pecan in the northwestern section of the State.

Truck Crop Insects: SOUTHERN ARMYWORM (Prodenia eridania) and SERPENTINE LEAF MINER (Liriomyza sp.) were reported infesting tomatoes wherever this crop was grown. Wherever chemical controls were used judiciously, leaf miners and armyworms were not a serious problem. The estimated loss of crop value due to the southern armyworm was $76,000.00, and $127,000.00 loss due to the serpentine leaf miner. BEAN LEAF ROLLER (Urbanus proteus) and POTATO LEAFHOPPER (Empoasca fabae) were reported from southern and central parts of the State. Bean leaf roller infestations on snap beans in southwestern coastal counties were very persistent throughout the growing season. Leafhoppers were more severe in the southwestern section than last year. Estimated crop losses were $2,700,000. MELON APHID (Aphis gossypii) and SERPENTINE LEAF MINER infested watermelon in the Immokalee area in February and March. Southern sections reported troublesome infestations, but north central sections were not troubled as much as last year. Crop loss was $2,100,000. GREEN PEACH APHID (Myzus persicae), SERPENTINE LEAF MINER and SOUTHERN ARMYWORM infested potatoes in the spring and early summer along the southeast coast. Heavy infestations of leaf miners and aphids were reported in Dade County, while very little trouble was experienced in the north central section. Estimated crop loss was $1,400,000. MELON APHID, SERPENTINE LEAF MINER, MELONWORM (*Diaphania hyalinata*) and PICKLEWORM (*D. nitidalis*) were reported on cucumbers in the southern part of the State in February and March, with scattered high infestations from each of these pests. A combined spray program gave fairly good control to all except the cotton aphid. These insects did an estimated $220,00 damage. COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) heavily infested eggplant in the Plant City area. Also infested tomatoes and potatoes in Polk and Alachua Counties. A SLUG (*Veronicella floridana*) was reported causing damage to beans and tomatoes in the Homestead area. Five thousand acres surveyed to determine damage were not totally infested, but areas in some fields were replanted due to the feeding of this pest. CABBAGE LOOPER (*Trichoplusia ni*) was more abundant in January in the Sanford area than in the past four years due to warm weather during December 1956.

Tobacco Insects: STINK BUGS (*Euschistus* spp.) were not as severe on tobacco as in 1956. Wilting caused by the feeding of these insects was not as severe in 1957 due to sufficient soil moisture. GREEN PEACH APHID (*Myzus persicae*) infested tobacco in Alachua and Bradford Counties, but is no longer a serious problem with the new chemical control.

Forest, Ornamental & Shade Tree Insects: An aerial survey in May indicated only a light BARK BEETLE incidence throughout the northern area. Ground checks indicate that the ips engraver beetle was the chief cause of mortality, being present two or three times more often than the black turpentine beetle. Ground checks also revealed a rather high incidence of green trees under beetle attack, and in this case the black turpentine beetle was the chief offender. Survey findings in October indicated a very light incidence of BARK BEETLE activity in this area. PINE SAWFLIES (*Neodiprion lecontei*, *N. exitans*, *N. abbotii* and *N. nanulus*) damaged *Pinus* spp. in north and northwestern sections of the State. *N. lecontei* was reported in March through December with damage severe on several spotted infestations. In Suwannee County 30 acres codominant and intermediate size loblolly pine trees were completely defoliated by *N. exitans* by November 11 Evidence of attack was found on 3,000 acres in Okaloosa County, ranging from light on the fringes to moderate and heavy in the central portion. COCONUT SCALE (*Aspidiotus destructor*) was present on a wide range of host plants, including coconut palms, but it did not develop to epidemic proportions as in 1956. An OLEANDER CATERPILLAR (*Syntomeida epilais jucundissima*) was reported infesting oleander and a wide range of ornamental plants. YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli*) was reported in large numbers on foliage plants, annuals and gladiolus, being reported in southern sections in February and moving northward as late as October. MELON APHID (*Aphis gossypii*) and BLACK CITRUS APHID (*Toxoptera aurantii*) infested ornamentals, cut flowers and succulent plants. FLORIDA RED SCALE was reported on a wide range of ornamentals and shade trees every month in the year, but was less prevalent than in 1956.

Arthropods Affecting Man and Animals: SCREW-WORM (*Callitroga hominivorax*) infestations were generally more severe than in the past several years. Almost all calves were treated at birth and periodic inspections were necessary. These concerted efforts of the livestock growers to protect their animals resulted in increased production costs. The mild winter probably was a contributing factor. HORN FLY (*Siphona irritans*) was extremely bothersome in the southern and central areas of the State again this year. Controls were applied to livestock during the summer and early fall months. COMMON CATTLE GRUB (*Hypoderma lineatum*) was reported from the southern part of the State in January, February and March. Of herds inspected, up to 95 percent of the animals were infested. Control measures were applied to some dairy cattle in all areas.

OKLAHOMA

Reported by Stanley Coppock, Jr.

Highlights: Heavy migration of Melanoplus bilituratus took place in the northwestern and panhandle counties during the fall. This migration from out-of-state increased the potential grasshopper damage for 1958 from a light to a light-threatening situation in those areas. The FALL ARMYWORM was unusually abundant in 1957 on corn, sorghums, and legumes. Heavy populations of the VARIEGATED CUTWORM were present during late May and early June throughout the State. Damage to legumes was heavy; to small grains light-heavy. SPOTTED ALFALFA APHID numbers in all sections were lower than for any year since the pest was discovered in the State (spring of 1954). The RED-NECKED PEANUTWORM did considerable damage in peanut-growing areas. This is the first year that this insect has been of economic importance in the State. The COTTON LEAFWORM caused extensive defoliation of cotton in all cotton producing areas. A new TERMITE for Oklahoma, a dry-wood species (Kalotermes minor) was collected in Guthrie during August.

Cereal and Forage Insects: GRASSHOPPERS - State-wide populations as a whole were lighter than for some years. Hatching was late in all sections. Range, crop, and marginal populations in all areas except the northwestern and panhandle sections were light - very light and remained so all year. Range populations in the northwest and panhandle generally ran from 2-8 adults per square yard at mid-summer; marginal and roadside numbers in the same area commonly averaged from 5-12 per square yard. The most abundant species in western range areas were Melanopus bilituratus, Phlibostroma quadrimaculatum, Aeloplides turnbulli, Aulocara elliotti, and Syrbula sp. The chief marginal and roadside species were M. differentialis, M. bivittatus, M. packardii, M. bilituratus, and Aeloplides turnbulli. In late October and early November heavy migrations of M. bilituratus took place in the extreme northwestern and panhandle counties. These grasshoppers originated in states north of Oklahoma. At the peak of migration, populations in "resting areas" generally ran 10-20 per square yard compared with summer populations in the same areas of 2-8. This migration of M. bilituratus from out-of-state increased the potential danger for 1958 (as determined by egg census) from a light to a light-threatening situation. Destruction of fall-seeded small grains in the panhandle was heavy, approximating 5-10 percent. FALL ARMYWORM (Laphygma frugiperda) was one of the most important insect problems on sorghum. Because of unusually heavy precipitation early in the season the crop was planted much later than usual. Damage to sorghum whorls was severe in most areas in summer. Late-planted corn became heavily infested in mid-summer also. Some broomcorn in Garvin County showed heavy numbers by late August. In September, the fall armyworm was becoming fairly abundant in the heads of sorghums in the central and eastern areas with up to 4 larvae per head in some fields in Hughes County. Head infestation was light and scattered in the northwest and panhandle counties; Alfalfa County having the heaviest infestation with up to 12 percent of the heads containing larvae. All other counties were lower. Scattered, light populations of the fall armyworm were present in alfalfa during late summer. Small to very small numbers of SPOTTED ALFALFA APHID (Therioaphis maculata) were present during the first 3 months of the year. In early April, an explosive situation occurred in Beckham and Harmon Counties. From 5,000 to 10,000 aphids per square foot of alfalfa crown were common with considerable honeydew present. In areas other than the southwest, the aphid populations remained low, in fact, lower than at any time since the spring of 1954. Extremely heavy rains occurring state-wide in late spring induced heavy mortality in most areas. A light general buildup in numbers occurred during July in the southern half of the State and was followed by a sharp increase in predators. From late September to the end of the year, only light to very light populations were found. Damage to alfalfa throughout the State was only a small percent of that occurring in 1956. ARMYWORM (Pseudaletia unipuncta) damaged heading barley in the southern and southwestern areas during May. Some head clipping and considerable aerial spraying was undertaken in Tillman County. Other small grains and alfalfa were also infested, the heaviest occurring in the southern one-half of the State. By June 15, populations were reduced to a non-economic level. Disease and heavy parasitism were undoubtedly largely responsible for the rapid decline. Populations of the VARIEGATED CUTWORM (Peridroma margaritosa) became heavy in legumes during late May and early June. Counts of 6-8 larvae or more per square foot were common throughout the State; heaviest in the southern and central areas. Scattered light to heavy infestations also occurred in small grains. Chemical control was initiated, especially in the southwest. By June 1, pupation was common. During January, light scattered infestations of the ARMY CUTWORM (Chorizagrotis auxiliaris) were found in Custer, Garfield, and Kingfisher Counties. Early in February, 15 of 51 fields examined in 12 western counties contained cutworms. In March, a few fields in Major County averaged 12 larvae per square yard with light to moderate damage. Some chemical control measures were applied in this area. CORN EARWORM (Heliothis zea) populations on corn and sorghums were considerably lighter than in 1956. Heavy spring rains undoubtedly slowed an early population build-up. By mid-summer larvae were common, statewide, but populations remained light. Intensive tests conducted during 1957 at 4 State locations by research entomologists placed the reduction in corn yield due to corn earworm feeding at 1.9 percent. SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) infestations were generally light. Overwintering larvae (1957-1958) infested up to 10 percent of the corn plants in the northeastern area. WEBWORMS (Loxostege spp.) did considerable damage to alfalfa and soybeans during mid-summer especially in the eastern, southern and central regions. Twenty to 50 larvae per 10 sweeps were common in many fields. Control measures were applied largely in the southwest and northeast. Damage was light in sorghum heads. GREENBUG (Toxoptera graminum) populations were of minor importance during 1957; only light scattered infestations. The BROWN WHEAT MITE (Petrobia latens) was not a factor in the 1957 wheat crop. Heavy rains in spring of 1957 reduced all stages to an extremely low level. Winter (1957-1958) populations of this mite are lowest in years. Heavy numbers of CHINCH BUG (Blissus leucopterus) were noted in isolated fields of sorghum and corn during summer in the northeastern section. Some late-planted fields suffered damage. The 1957 fall survey showed 32 of the State's 77 counties to have a potential rating of severe to very severe. Light-medium populations of ENGLISH GRAIN APHID (Macrosiphum granarium) occurred statewide in small grains early in the year. The WINTER GRAIN MITE (Penthaleus major) was more abundant on small grains than during the past several years, probably due largely to the greater precipitation in 1957. During both spring and fall scattered populations were present in many fields throughout the State. Isolated light damage occurred in the northeastern and southwestern counties. The CORN LEAF APHID (Rhopalosiphum maidis) was present on barley in most sections during the fall, however populations were light. Numbers were light to moderate in sorghum whorls throughout the State. A scattered light infestation of APPLE GRAIN APHID (Rhopalosiphum fitchii) was reported, the highest being 0-3000 per linear foot of rye in southwestern Oklahoma. FALSE WIREWORM (Eleodes spp.) populations were very light with no economic damage noted. PEA APHID (Macrosiphum pisi) built up rapidly during May in most sections followed by a decline to non-economic proportions by late June. East central counties supported the highest populations. The RED-NECKED PEANUTWORM (Stegasta basqueella) did considerable damage to peanuts throughout the State. Up to 100 percent of the buds in many fields showed feeding damage. Four or five generations developed. This is the first year that this insect has been of economic importance in the State. Minor damage to broomcorm in August was caused by larvae of an insect tentatively identified as a weevil (Anacentrinus deplanatus). Adults were found in the stubble fields and larvae in the canes. LESSER CORNSTALK BORER (Elasmopalpus lignosellus) seriously damaged peanuts in the Stratford area; scattered light infestations were reported from other areas. LEAFHOPPERS, especially the six-spotted leafhopper (Macrosteles fascifrons) and (Aceratagallia uhleri) were abundant in legumes, small grains, and grassland throughout the State. Populations were reduced with the onset of summer. A SNOUT BEETLE (Compsus auricephalus) did considerable local damage to seedling corn in the Pauls Valley area. The BLACK CUTWORM (Agrotis ypsilon) was numerous in seedling corn in Nowata County. TARNISHED PLANT BUG (Lygus lineolaris) was more abundant than usual throughout the State on legumes; 10-40 nymphs and adults per 10 sweeps were common. Populations of LEAFHOPPERS (Empoasca spp.) occurred statewide and were more abundant than usual. Numbers persisted until fall. Ten to 40 per 10 sweeps were typical in alfalfa. GREEN CLOVERWORM (Plathypena scabra) was plentiful on alfalfa throughout the growing season. Light populations of EUROPEAN CORN BORER (Pyrausts nubilalis) were reported in corn in Nowata, Ottawa, Muskogee, and Payne Counties and from one field of peppers in Muskogee County.

Fruit Insects: PECAN NUT CASEBEARER (Acrobasis caryae) damage in 1957 was only a small percent of the 1956 loss. Egg-laying was exceptionally late (June 10 in central and southern areas). Damage to nut clusters by midsummer generally ran 3-7 percent in east central areas, up to 9 percent in Stillwater area. The WALNUT CATERPILLAR (Datana integerrima) caused general light damage to walnut and pecan foliage, severe defoliation in local areas. Severe damage to native plums by the EASTERN TENT CATERPILLAR (Malacosoma americanum) occurred in April in Major and Beckham Counties. Two species of SCARAB BEETLES (Cotinus nitida and Euphoria sp.) damaged ripe cherries in the Stillwater area. PEACH TREE BORER (Sanninoidea exitiosa) did considerable damage to peach trees in Pontotoc County. In the Stillwater area the damage was normal to slightly above normal. Scattered damage to apple trees by the FLATHEADED APPLE TREE BORER (Chrysobothris femorata) was noted during the spring in central counties. Drought-weakened trees were frequently attacked and killed. The SHOT-HOLE BORER (Scolytus rugulosus) was common in peach and apple trees in Pontotoc County during April. The most severe damage occurred in trees weakened by drought. PECAN WEEVIL (Curculio caryae) infestations were negligible.

Truck Crop Insects: SEED-CORN MAGGOT (Hylemya cilicrura) caused heavy damage to sweet corn and beans in Marshall County during April. Fall populations on spinach foliage in Bixby area average from 12-20 larvae per 100 plants. Populations of GREEN PEACH APHID (Myzus persicae) on commercial spinach in the Bixby area were unusually low. The MELON APHID (Aphis gossypii) did severe damage to 500 acres of watermelons in Jefferson County. Some other heavy infestations were also reported from additional counties. SQUASH BUG (Anasa tristis) damage was abnormally low. COLORADO POTATO BEETLE (Leptinotarsa decemlineata) caused moderate damage to a few fields of potatoes in Muskogee County. Limited scattered damage in tomatoes was caused by HORNWORMS (Protoparce sp.). CORN EARWORM (Heliothis zea) populations in sweet corn were widespread, however, damage was lighter than usual. Local heavy damage to tomatoes occurred in Pushmataha County. SOUTHERN BEET WEBWORM (Pachyzancla bipunctalis) - A heavy infestation in 70 acres of spinach in Haskell County rendered it unmarketable. The TOMATO RUSSET MITE (Vasates lycopersici) caused considerable damage to greenhouse tomatoes in the Stillwater area during spring. A TORTOISE BEETLE (Metriona sp.) averaged 2-3 adults per sweetpotato plant in the Bixby area during June.

Cotton Insects: The COTTON LEAFWORM (Alabama argillacea) was one of the most troublesome pests of cotton during 1957. Activity began unusually late, about the end of July in the southern and southwestern areas. By mid- and late August heavy infestations occurred in all cotton-producing areas. Control measures were only partially effective. Leafworm numbers declined rapidly in September. BOLLWORMS (*Heliothis* sp.) - Egg-laying began late and was generally light during July. An increase in egg-laying and resultant larval damage was reported from all areas during August. Very little damage to squares occurred after September 1. Boll damage was generally light; however, it was widespread. A minimum of damage took place in irrigated cotton due to persistent control measures. Late winter debris samplings in eastern Oklahoma for the PINK BOLLWORM (*Pectinophora gossypiella*) showed a very low overwintering survival. Samplings in the southwestern counties indicated a somewhat higher survival rate there. The first reported moths for the season were taken at Chickasha May 20. During August, over 33, 000 blooms were inspected in southwestern counties - no larvae were found. Likewise, inspection of approximately 36,000 blooms in eastern counties failed to reveal any larvae. During the fall and early winter of 1957, inspections of gin trash, green bolls, dry bolls, lint cleaners, and gin stands indicated a very light pink bollworm infestation, in fact, lighter than in 1956. CABBAGE LOOPER (*Trichoplusia ni*) - Populations began building up in southern areas in late July. During late August and early September, heavy populations were found in most southwestern fields; other areas had lighter numbers. Damage to cotton was minimized due to the late seasonal buildup. Generally, insecticidal control was unsatisfactory. BOLL WEEVIL (*Anthonomus grandis*) damage in the State was negligible except in some eastern and southeastern counties. Late in the season, a light infestation of larvae in green bolls was noted in some southwestern fields. COTTON APHID (*Aphis gossypii*) infestations were generally light with only localized heavy populations. COTTON FLEAHOPPER (*Psallus seriatus*) numbers were light early in the season. During late July and early August, a rapid increase took place in many southwestern fields. Peak populations there ran from 10-200 fleahoppers per 100 terminals. Other regions of the State had light populations. THRIPS were not abundant in any section during 1957. Scattered fields in the southwest supported heavy populations of WHITEFLIES during August and September. Light scattered MITE populations occurred throughout the State; heavy in some fields in Caddo, Kiowa, and Jackson Counties.

Forest, Ornamental and Shade Tree Insects: Populations of IPS BEETLES (*Ips* spp.) in shortleaf pine in the southeast area were generally light compared with 1956. A few scattered medium-heavy infestations were noted during mid-summer in Pushmataha and McCurtain Counties. BLACK TURPENTINE BEETLE (*Dendroctonus terebrans*) infestations in the southeast were lighter than in 1956. RED-HUMPED CATERPILLAR (*Schizura concinna*) defoliated native sumac in Latimer County during September. Many catalpa trees in McCurtain County were severely defoliated by CATALPA SPHINX (*Ceratomia catalpae*). LEAFHOPPERS were very abundant on native elm trees in most areas. Predominant species were *Erythroneura dumosa* and *Erythroneura basilaris*. An ARBORVITAE APHID (*Cinara tujafilina*) was numerous on hedges in the Stillwater area during late winter and early spring. A CEDAR SCALE (*Cryptaspidiotus shastae*) was reported from the central area. Over 90 percent of pine twig terminals in the Stillwater area were infested with the pupae of NANTUCKET PINE MOTH (*Rhyacionia frustrana*). SPIDER MITES damaged privet shrubbery in central Oklahoma during mid-summer. A heavy local infestation of the ELM LEAF APHID (*Myzocallis ulmifolii*) occurred on native elm in the Healdton area. The LOCUST BORER (*Megacyllene robiniae*) did severe damage to a stand of locust trees in the Valliant area. Isolated heavy populations of the HACKBERRY NIPPLE GALL (*Pachypsylla celtidis-mamma*) on hackberry occurred in the central area.

Insects Affecting Man and Animals: COMMON CATTLE GRUB (*Hypoderma lineatum*) - Most of the grubs had emerged from the backs by February 1. The first report of heel fly activity was in Choctaw and Pushmataha Counties March 23. Fall 1957 infestations were slightly higher than in 1956. HORN FLY (*Siphona irritans*) populations were light throughout the spring. In June a very rapid increase in all except the western areas was noted. Mid-June populations in the central area commonly ran 2,000 -5,000 flies per cow; 10,000-20,000 on bulls. Lighter numbers were present in other state areas. Beginning in July a marked decline occurred statewide. TABANIDS remained common from early June through October. In general, numbers were light except at mid-summer in northeastern and north central counties where from 15-20 flies per animal were common. Chief species represented were Tabanus equalis, T. atratus, T. fairchildi, and T. lineola complex. MOSQUITOES were heavy in all sections during June. Abundant rainfall provided a very favorable breeding habitat. Many cities initiated control measures. Populations of LONE STAR TICK (Amblyomma americanum) larvae were greater than for the past three years in Atoka County.Populations of SCREW-WORM (Callitroga hominivorax) did not build up until very late (September and October) The overall picture was worse than in 1956. FLEAS in dwellings were reported from most sections. BROWN DOG TICK (Rhipicephalus sanguineus) was troublesome in homes throughout the year. EAR TICK (Otobius megnini) populations in Custer County were the heaviest in years.

Stored-Product Insects: SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) was generally light. Heavy local populations of the LESSER GRAIN BORER (Rhyzopertha dominica) occurred in eastern area but overall numbers were down from last year. INDIAN-MEAL MOTH (Plodia interpunctella) was light in feed and seed establishments. RED FLOUR BEETLE (Tribolium castaneum) showed scattered light to heavy infestations in mills, warehouses, and farm-stored grain in all sections. Only light populations of the CONFUSED FLOUR BEETLE (Tribolium confusum) were noted. Light, general infestations of DERMESTIDS occurred throughout the State. CADELLE (Tenebroides mauritanicus) was very light. RICE WEEVIL (Sitophilus oryza) was lighter than 1956. The FLAT GRAIN BEETLE (Laemophloeus pusillus) was one of the most abundant pests of stored grain during 1957.

Beneficial Insects: CONVERGENT LADY BEETLE (Hippodamia convergens) populations in alfalfa were low throughout the State. This was perhaps due largely to the light spotted alfalfa aphid infestation in 1957. LACEWINGS (Chrysopa spp.) were generally light in all sections. SYRPHID FLY larvae were locally abundant in the Frederick area small grains during May. The HONEY BEE (Apis mellifera) was observed bringing in the season's first pollen store February 23 in the Stillwater area.

Miscellaneous Insects: Heavy infestations of A FLY (Chrysomyza demandata) were noted in three warehouses in Oklahoma City during May. A DRY-WOOD TERMITE (Kalotermes minor) was taken from a house in Guthrie during Ausust. This was a new record for Oklahoma. A TERMITE (Reticulitermes hageni) was found swarming in Tulsa, October 26. A roadside census of A HARVESTER ANT (Pogonomyrmex sp.) in Cimarron County during May showed an average of 95 hills to the mile within the road right-of-way.

SUMMARY OF INSECT CONDITIONS - 1957

MISSISSIPPI

Prepared by R. E. Hutchins

Cereal and Forage Insects: On April 23 ARMYWORMS (*Pseudaletia unipuncta*) were counted in three oat fields in Washington County. In two fields first instar larvae numbered 7 and 8 per square foot, while in a third field larvae in the second to fourth instar numbered 11 per square foot. By May 10 most armyworms in oat fields had been controlled with chemicals. LESSER CORNSTALK BORER (*Elasmopalpus lignosellus*) larvae injured small bean and cowpea plants in Harrison County in May and again in July. EUROPEAN CORN BORER (*Pyrausta nubilalis*) infested corn in Holmes, Humphreys, Issaquena, Tallahatchie, Tippah, Tunica, Yazoo and Webster Counties in June and August. SOUTHERN CORNSTALK BORER (*Diatraea crambidoides*)infested corn in Holmes County in August. A CHINCH BUG (*Blissus leucopterus insularis*) was feeding on lawn grass in the counties bordering on the Gulf of Mexico in May and June, and by August was reported to have almost reached epidemic proportions. This species was reported from Marion County in September and from Warren County in November. GROUND PEARLS (*Margarodes* sp.) were collected in Harrison County on St. Augustine grass in May, in Marion County in September and on centipede grass in Harrison County in October. SORGHUM WEBWORM (*Celama sorghiella*) infested heads of milo maize in a 60-acre field in Grenada County in October.

Fruit and Nut Tree Insects: ORIENTAL FRUIT MOTH (*Grapholitha molesta*) larvae were found in apple twigs from Noxubee County in May. WALNUT CATERPILLAR (*Datana integerrima*) damaged pecan trees in Jackson and Harrison Counties in June. FALL WEBWORM (*Hyphantria cunea*) was numerous on pecan and other trees in Jackson, Oktibbeha and Tate Counties in June. MAY BEETLES (*Phyllophaga* spp.) adults were feeding on pecan trees in Oktibbeha County early in May.

Vegetable Crops: MEXICAN BEAN BEETLE (*Epilachna varivestis*) fed on beans in Oktibbeha County in May. More damage to beans in Panola County than for several years was reported. There was also damage in Oktibbeha and Tallahatchie Counties. SOUTHERN ARMYWORM (*Prodenia eridania*) damaged potatoes in Jackson and Harrison Counties in May, tomato plants in Jackson, Harrison, Pearl River and Stone Counties, gardens in Lincoln, Neshoba, and Perry Counties, and sweet potatoes in Panola and Yalobusha Counties in September, and Forest County in October. SOUTHERN GREEN STINK BUG (*Nezara viridula*) caused injury to cowpeas in Perry County in May, to beans and tomatoes in Tallahatchie County in June, to beans in Lauderdale County in July. A WHITE-FRINGED BEETLE (*Graphognathus peregrinus*) adult from an infested part of Jasper County was sent to the Extension Entomologist. SWEETPOTATO WEEVIL (*Cylas formicarius elegantulus*) was found in Adams County in October.

Cotton Insects: The first adult BOLL WEEVIL (*Anthonomus grandis*) was observed in Oktibbeha County on May 31. By the middle of July heavy infestations were general over the southern two-thirds of the State. BOLLWORM (*Heliothis zea*) infested cotton in Lauderdale County in June and Adams County in August. TOBACCO BUDWORM (*Heliothis virescens*) larvae were also found infesting cotton in Adams County in August. BEET ARMYWORM (*Laphygma exigua*) fed on cotton near field edges in Lauderdale and Oktibbeha Counties. SOUTHERN ARMYWORM (*Prodenia eridania*) was feeding on cotton in Jones County in July.

Forest and Shade Tree Insects: EASTERN TENT CATERPILLAR (*Malacosoma americanum*) infested wild cherry trees in Choctaw, Oktibbeha and Webster Counties early in April. Cottonwood trees 1 - 6 years from cutting in a nursery in Washington County were injured by a TWIG BORER. NITIDULID larvae feeding on the sap oozing out of grub holes in oak trees were reported to kill patches of cambium, resulting in defects in lumber made from the trees. ARCTIID larvae found feeding on male cones on loblolly pines were reared and one adult was identified as *Haploa* sp. BLACK TURPENTINE BEETLE (*Dendroctonus terebrans*) infested pine trees in Oktibbeha County, while *Ips calligraphus* in Adams County was suspected of killing pine trees. NANTUCKET PINE MOTH (*Rhyacionia frustrana*) larvae were received from Coahoma County in August and from Webster County in September. SOUTHERN PINE SAWYER (*Monochamus titillator*) was taken from dying pine trees in Attala County. RED-HEADED PINE SAWFLY (*Neodiprion lecontei*) larvae were infesting small pine trees in Lauderdale County in October. The first adults of EASTERN SUBTERRANEAN TERMITE (*Reticulitermes flavipes*) received in 1957 came from Lauderdale County on March 15, while others were received from Oktibbeha County on March 29. Workers were received from Newton County with the information that they had killed a three-year old apple tree.

Ornamental Plant Insects: A larva of UNICORN CATERPILLAR (*Schizura unicornis*) was feeding on rose leaves in De Soto County. A TEA SCALE (*Fiorinia theae*) and CAMELLIA SCALE (*Lepidosaphes camelliae*) infested *Ilex burfordi* in Sunflower County. AZALEA BARK SCALE (*Eriococcus azaleae*) infested azalea plants in Hinds County. SOUTHERN BEET WEBWORM (*Pachyzancla bipunctalis*) was damaging grass in Jackson County in September.

Insects Affecting Man and Animals: GULF COAST TICKS (*Amblyomma maculatum*) sent from Marion by a physician who suspected that tick bites were causing sickness. PUSS CATERPILLAR (*Megalopyge opercularis*) stung a boy who was sent to a hospital in Monroe County. CATTLE TAIL LOUSE (*Haematopinus quadripertusus*) was reported from Wilkinson County in February. IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) was reported from Attala County in February and March.

Stored-Product Insects: Larvae feeding in cracked soybeans on the floor of a seed house in Leflore County were reared and identified as MEDITERRANEAN FLOUR MOTH (*Anagasta kuhniella*). Some small beetles that emerged in large numbers from stored oats and possibly from student insect collections were identified as *Trogoderma sternale*.

SUMMARY OF INSECT CONDITIONS - 1957

ARIZONA

Arizona Cooperative Report

Highlights: SPOTTED ALFALFA APHID less troublesome than in 1956 but with a mid-summer peak in Maricopa Co. PEA APHID as damaging to alfalfa as spotted alfalfa aphid in Yuma County early in the season. LYGUS BUGS rated as the number one pest of cotton. COTTON LEAFWORM invaded State and caused moderate damage to cotton.

Cereal and Forage Insects: Alfalfa - SPOTTED AFLALFA APHID (*Therioaphis maculata*) built up to high populations at Yuma during January but was dramatically reduced by a fungus (*Entomophthora* sp.) late in the month. A general increase came in Yuma County during mid-April and elsewhere in the southern part of the State in early May. A reduction occurred throughout the area in late May and early June. Maricopa County had a mid-summer rise the middle of July, with a drop early in August. The over-all picture was of decreased populations from previous years, with scattered heavy damage. PEA APHID (*Macrosiphum pisi*) reached the highest numbers seen in 5 years in Yuma County from March to May. Damage was equal to that of spotted alfalfa aphid. *Lygus hesperus* and, perhaps, others reached abnormally high populations in Yuma and Maricopa Counties and high populations in all areas during June and July. CLOVER SEED CHALCID (*Bruchophagus gibbus*) populations were generally low in Yuma County. ALFALFA CATERPILLAR (*Colias philodice eurytheme*) became very abundant in the Yuma area in August but with fewer larvae than expected from the adults present. A LEAF ROLLER (*Platynota stultana*) was abundant in Yuma County from July to September, serious in September. EGYPTIAN ALFALFA WEEVIL (*Hypera brunneipennis*) was more abundant at Yuma than for past two years but damage was slight. It was reported as severe in some fields at Peoria, Maricopa County, February 28. STINK BUGS became abundant in most alfalfa seed fields at Yuma early in August. *Grains*- CORN EARWORM (*Heliothis* sp.) apparently exacted its normal toll of ears of both sweet and field corn. SOUTHWESTERN CORN BORER (*Zeadiatraea grandiosella*) infested one fifth to one half of the stalks in a field of grain sorghum at Tolleson, Maricopa County in mid-June. LESSER CORNSTALK BORER (*Elasmopalpus lignosellus*) damaged one third of grain sorghum plants in one field in Maricopa County the last week in June. BEET ARMYWORM (*Laphygma exigua*) damaged grain sorghum in Pinal and Pima Counties during May. CABBAGE LOOPER (*Trichoplusia ni*) infestation heavy on grain sorghum in one field in Pinal County in mid-May. STINK BUG (*Euschistus impictiventris*) adults averaged 8 - 10 per 100 sweeps on grain sorghum at Yuma in early April. An unidentified species reported as heavy on barley west of Buckeye, Maricopa County, March 28. DESERT CORN FLEA BEETLE (*Chaetocnema ectypa*) infestation was medium on wheat at Peoria, Maricopa County, February 28 and damaging young grain sorghum at Yuma May 24. ENGLISH GRAIN APHID (*Macrosiphum granarium*) populations developed late on winter grains but became heavy in some fields of barley and wheat in Maricopa and Pinal Counties in late March and early April.

Fruit Insects: COTTONY-CUSHION SCALE (*Icerya purchasi*) built up to large numbers on citrus in the area east of Phoenix early in April but apparently was reduced in most areas by the activities of the VEDALIA BEETLE (*Rodolia cardinalis*) this year. CITRUS THRIPS (*Scirtothrips citri*) built up on citrus at Yuma in March and again from July to September. YUMA SPIDER MITE (*Eotetranychus yumensis*) webbing was extensive in citrus at Yuma in March and April, with some groves showing discolored leaves. Many groves treated in April. WESTERN GRAPE LEAF SKELETONIZER (*Harrisina brillians*) damaged grape in several locations in Maricopa and Pinal Counties from July to September but was lighter than usual at Safford, Graham County. WOOLLY APPLE APHID (*Eriosoma lanigerum*) reported in large numbers on apple at Safford, Graham County early in the summer.

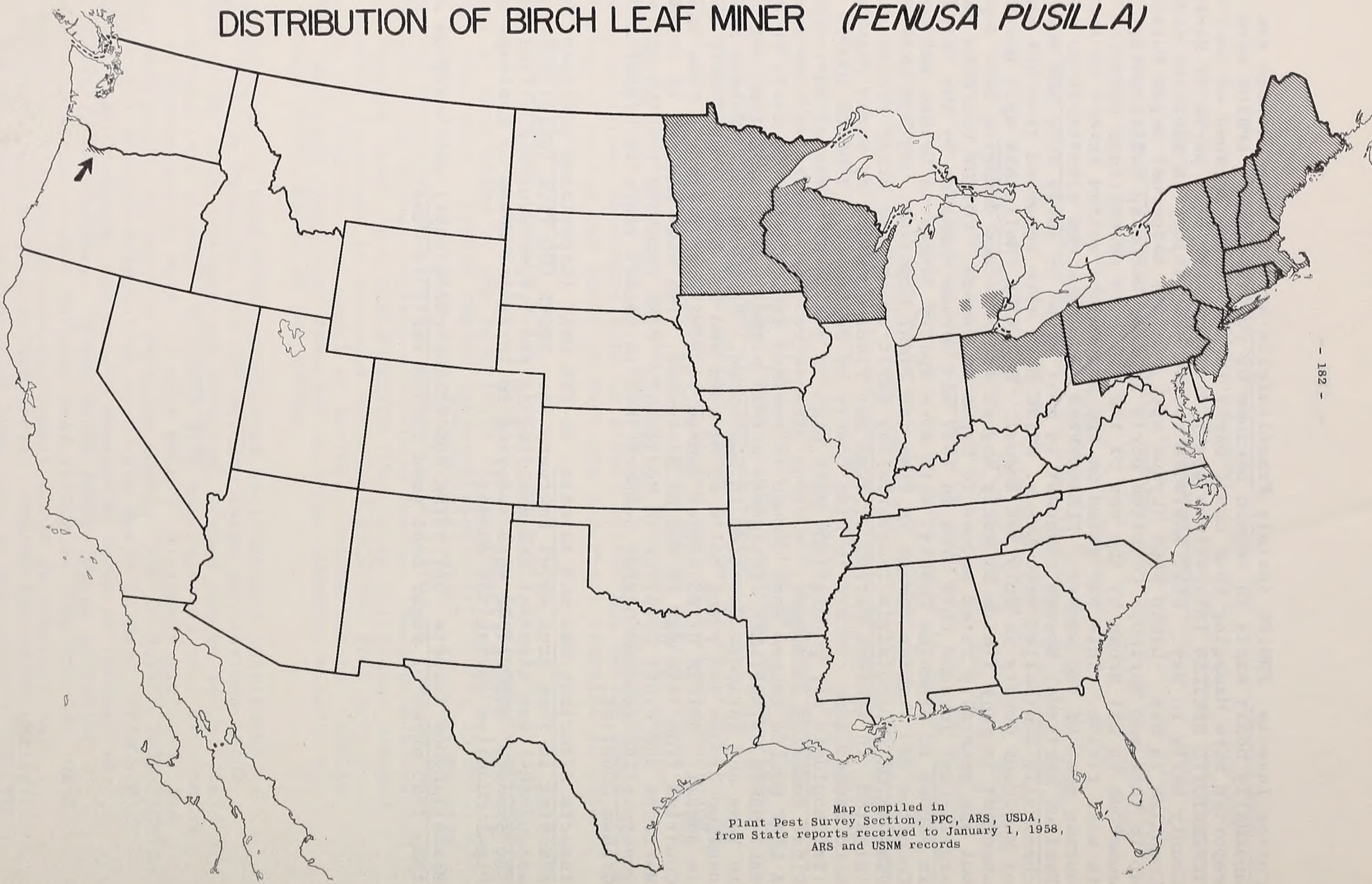
Truck Crop Insects: A LEAF MINER (*Liriomyza* sp.) damaged cotyledons of cantaloup at Yuma in March but did not develop large populations later. TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) caused damage to one field of cantaloup at Yuma late in May. A SPIDER MITE was reported very serious on watermelon at Yuma early in July. A LEAF ROLLER (*Platynota stultana*) was serious on watermelon in western Maricopa County late in July. TENEBRIONIDS (*Blapstinus* spp.) damaged watermelons at Tucson early in May. DIAMONDBACK MOTH (*Plutella maculipennis*) moderately damaged 20 acres of cabbage in Maricopa County in mid-January. GREEN PEACH APHID (*Myzus persicae*) exceptionally numerous in some lettuce seed fields at Yuma May 24. BEET ARMYWORM reported light on lettuce at Phoenix early in February and numerous on Papago peas at Yuma in mid-April. TOMATO FRUITWORM (*Heliothis* sp.) was reported numerous on tomato at Yuma late in May. POTATO PSYLLID (*Paratrioza cockerelli*) became abundant on potato in Pinal County in April.

Cotton Insects: THRIPS (mainly *Frankliniella occidentalis*) damage was unusually heavy early in season because of cool weather. APHIDS were reported more damaging than usual early in the season because of cool weather. TENEBRIONID BEETLES (*Blapstinus* spp.) did damage in many parts of Maricopa County early in May. BEET ARMYWORM caused some injury in Maricopa and Pima Counties in May. LYGUS BUGS (*Lygus* spp., mainly *hesperus*) began building up in Yuma and Maricopa Counties early in June becoming sufficiently numerous in all areas by the end of the month to necessitate chemical control in most fields. This was rated as the number one cotton insect in Arizona during most of the summer. FLEAHOPPERS (*Spanogonicus albofasciatus* and *Psallus seriatus*) became abundant in most areas by early July and were chemically controlled with *Lygus*. STINK BUGS were reported from all parts of Maricopa County in July and August. BOLLWORM (*Heliothis* sp.) became abundant in many fields by early August and remained damaging into September but was generally rated second to *Lygus* in damage. COTTON LEAFWORM (*Alabama argillacea*) invaded this area in 1957 and became damaging by the third week in August in Greenlee County, with more spotty damage in Graham and Cochise Counties and lighter damage in Pima and Pinal Counties. COTTON LEAF PERFORATOR (*Bucculatrix thurberiella*) built up in same areas previously infested, in western Maricopa, Yuma and Pinal Counties by early August and also caused some concern in Pima County by September. CABBAGE LOOPER (*Trichoplusia ni*) populations were high in scattered areas of Maricopa and Pinal Counties in August. A virus disease reduced numbers in some areas. A LEAF ROLLER caused some damage in western Maricopa County early in July. SALT-MARSH CATERPILLAR (*Estigmene acrea*) normal high populations were present in Yuma and Maricopa Counties in September. FIELD CRICKET (*Acheta assimilis*) damaged blooms and young bolls at Gadsden and San Luis, Yuma County early in August. SPIDER MITES caused damage to scattered fields in Yuma and Pima Counties from late May to end of September, with high numbers in parts of Maricopa and Pinal Counties in September. PINK BOLLWORM (*Pectinophora gossypiella*) reached higher numbers than in recent years in Greenlee and Graham Counties.

Insects Affecting Man and Animals: An EYE GNAT (*Hippelates collusor*) became annoying in Yuma area about February 26. BROWN DOG TICK (*Rhipicephalus sanguineus*) was abundant and annoying in the larger southern cities during the summer. MOSQUITOES were annoying in irrigated areas of Maricopa and Pinal Counties during the summer.

Miscellaneous Insects: SAY STINK BUG (*Chlorochroa sayi*) was heavy on more than 1000 acres of sugar beet seed fields early in June.

DISTRIBUTION OF BIRCH LEAF MINER *(FENUSA PUSILLA)*



Map compiled in
Plant Pest Survey Section, PPC, ARS, USDA,
from State reports received to January 1, 1958,
ARS and USNM records